

CLAIMS

1. An emergency brake device for an elevator, characterized by comprising a brake shoe portion provided inside a sheave or a deflector sheave of an elevator and having a brake shoe at a lower end of the brake shoe portion, the brake shoe generating a braking force due to friction upon abutting an inner wall of an outer peripheral frame of the sheave or the deflector sheave at a time of braking, the brake shoe portion having built therein a spring mechanism provided between the brake shoe and a king pin, which is offset in a rotation direction of the sheave or the deflector sheave with respect to a centerline passing through a rotation shaft of the sheave or the deflector sheave and is fixed on a bearing side of the rotation shaft, the spring mechanism absorbing a force generated between the brake shoe and the king pin due to the braking force and being connected to the king pin at one end.

2. The emergency brake device for an elevator according to Claim 1, characterized in that a pair of the spring mechanisms are each provided between the brake shoe and each of a pair of the king pins that are offset to be bilaterally symmetrical with respect to the centerline, for braking rotation of the sheave or the deflector sheave in both directions.

3. The emergency brake device for an elevator according to Claim 2, characterized in that the king pin side of each of the spring mechanisms is connected to a movable support hole that engages with each of the king pins, the movable support hole being formed as an elongated circular hole to allow the brake shoe portion to tilt by a predetermined angle to both sides with respect to the centerline.

4. The emergency brake device for an elevator according to any one of Claims 1 through 3, characterized by further comprising a drive portion fixed on the bearing side of the rotation shaft, for raising and lowering the brake shoe portion between a position where the brake shoe at the lower end of the brake shoe portion abuts the inner wall of the outer peripheral frame of the sheave or the deflector sheave and a position where the brake shoe is spaced from the inner wall.

5. The emergency brake device for an elevator according to Claim 4, characterized in that:

the drive portion is an electric drive portion; and
the emergency brake device for an elevator further comprises:
speed abnormality detecting section for detecting an abnormality based on a status of a control command to the car from an elevator control device and on actual movement of the car; and

emergency brake driving section for imparting a signal to the drive portion to cause the brake shoe portion to abut the inner wall of the outer peripheral frame of the sheave or the deflector sheave upon detecting an abnormality.

6. The emergency brake device for an elevator according to Claim 5, characterized in that the speed abnormality detecting section determines that an abnormality has occurred upon detecting at least one of the following conditions: the car is moving upwards at a speed higher than a rated speed; and the car has moved upwards or downwards even though a status of a control command to the car indicates stoppage.